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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/840,817	04/24/2001	Erwin B. Bellers	US 010028	5944

24737 7590 06/18/2003

PHILIPS INTELLECTUAL PROPERTY & STANDARDS
P.O. BOX 3001
BRIARCLIFF MANOR, NY 10510

EXAMINER

LEE, RICHARD J

ART UNIT	PAPER NUMBER
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2613

DATE MAILED: 06/18/2003

5

Please find below and/or attached an Office communication concerning this application or proceeding.

1

Office Action Summary

Application No.
09/840,817

Applicant(s)

Bellers

Examiner
Richard Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 2, 4 6) ☐ Other:

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1. The applicant is informed that the article "Recursive Search Block-Matching" as cited on the IDS filed April 24, 2001 fails to disclose the date of the reference. Please furnish the date in a new IDS in response to this Office Action for Examiner consideration.

2. Figures 5, 6A, and 6B should be designated by a legend such as "Prior Art" (see pages 2 and 4 of the Specification) in order to clarify what is applicant's invention. (see M.P.E.P. 608.02(g)).

3. The disclosure is objected to because of the following informalities: Block 403 as shown in Figure 4 of the drawings has not been identified in the Specification.

Appropriate correction is required.

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

5. Claims 1, 2, 4-6, 8-10, 12-14, 17, and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by de Haan et al of record ("True-Motion Estimation with 3-D Recursive Search Block Matching).

De Haan et al discloses a 3-D recursive search block matching system, and the same high definition television receiver, for use in a receiver, a method and video enhancement mechanism for enhancing video information with spatio-temporal consistency, computer program product within a computer usable medium, and video information signal as claimed in claims 1, 2, 4-6, 8-

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10, 12-14, 17, and 18, comprising the same input connection receiving video information and display on which enhanced images derived from the video information are displayed (see section I of page 368); a video enhancement mechanism for enhancing the video information with spatio-temporal consistency (see section IV, pages 370-371, section VI, pages 372-373, section VIII, pages 374-375); at least one enhancement unit (i.e., estimators (a and b), spatial and temporal predictors, see section IV, pages 370-371) enhancing a characteristic other than position of a selected pixel region of video information utilizing at least one candidate enhancement vector of enhancement algorithms to generate an enhanced pixel region for each candidate enhancement vector, each of the enhanced pixel region equivalent to enhancement of the selected pixel region utilizing a respective candidate enhancement vector of enhancement algorithms (see section II, pages 368-369, section IV, pages 370-371); a selection unit computing an error (i.e., errors are assigned to candidate vectors using the SAD criterion of equation (6), see sections II and IV) for each the enhanced pixel region utilizing a bias towards spatio-temporal consistency of a respective enhanced pixel region with spatially adjacent pixel regions in a picture containing the selected pixel region and with a counterpart pixel region in one or more pictures successive with the picture containing the selected pixel region, the selection unit selecting an enhanced pixel region having a best enhancement for spatio-temporal consistency (i.e., a vector which minimizes the matching error is selected from the candidate set, thereby providing the selected enhanced pixel region having a best enhancement for spatio-temporal consistency, see Sections II, IV, and V); wherein the at least one candidate enhancement vector of enhancement algorithms is selected

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from enhancement vectors determined to produce a best enhancement for spatio-temporal consistency in enhancing pixel regions within a spatial and temporal neighborhood of the selected pixel region (i.e., a vector which minimizes the matching error is selected from the candidate set, thereby providing a selected candidate enhancement vector which produces a best enhancement for spatial-temporal consistency within a spatial and temporal neighborhood of the selected pixel region, see Sections II, IV, and V); and wherein the error is computed on a per-pixel region basis for each pixel region within the video information and for each candidate enhancement vector for a respective pixel region (i.e., block matching and errors are assigned to candidate vectors using the SAD criterion of equation (6), see page 369, column 1, page 371).

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 3, 7, 11, 15, 16, 19, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over de Haan et al of record ("True-Motion Estimation with 3-D Recursive Search Block Matching).

De Haan et al discloses substantially the same high definition television receiver, for use in a receiver, a method and video enhancement mechanism for enhancing video information with spatio-temporal consistency, computer program product within a computer usable medium, and

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video information signal as above, further including adding penalty to the error as the bias and wherein the bias towards spatio-temporal consistency further comprises second penalty varying for each candidate enhancement vector (i.e., penalties are added to the error function related to the length of the difference vector between the candidate to be evaluated and some neighboring vectors, see section VI, pages 372-373).

De Haan et al does not particularly disclose though, first penalty varying based upon coefficients for each candidate vector as claimed in claims 3, 7, 11, 15, and 19. However, it is noted the variable C from equation (26) as shown at page 373 of De Haan corresponds to candidate vectors. And since the candidate vectors C comprise coefficients, it is therefore considered obvious that the penalties that are added to the error function as shown in equation (26) also varies based upon coefficients for each candidate enhancement vector within the equation as claimed. Therefore, it would have been obvious to one of ordinary skill in the art, having the De Haan et al reference in front of him/her and the general knowledge of penalty addition to the error of candidate vectors, would have had no difficulty in recognizing the coefficients present within the candidate vector C of equation (26) and that the penalties that are added to the error function as shown in equation (26) also varies based upon coefficients for each candidate enhancement vector within the equation for the same well known spatial and temporal smoothing purposes as claimed.

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8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

De Haan et al (6,385,245; US 2002/0025077 A1; and 6,219,436) and Bagni et al disclose various types of motion estimation systems.

9. **Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314, (for formal communications intended for entry)

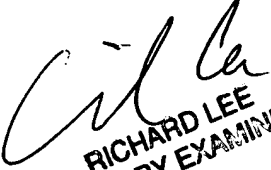
(for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,
Arlington, VA., Sixth Floor (Receptionist).

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10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Lee whose telephone number is (703) 308-6612. The Examiner can normally be reached on Monday to Friday from 8:00 a.m. to 5:30 p.m, with alternate Fridays off.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group customer service whose telephone number is (703) 306-0377.


RICHARD LEE
PRIMARY EXAMINER

Richard Lee/rl

6/12/03

